

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A comparator comprising:

a first input transistor with a first terminal, a second terminal and a gate terminal, wherein the gate terminal is in communication with a first input and the first terminal of the first input transistor is in communication with a first reference voltage via a first electrical path, the first electrical path including a first current source and a resistor to generate a hysteresis offset;

a second input transistor with a first terminal, a second terminal and a gate terminal, wherein the gate terminal is in communication with a second input and the first terminal of the second input transistor is in communication with the first reference voltage via a second electrical path, ~~the first electrical path including a current source; and~~

a third transistor having a first terminal, a second terminal and a gate terminal, wherein the gate terminal communicates with said second terminal of said first input transistor;

a capacitor that communicates with said gate of said third transistor; and

an output ~~capable of setting~~ toward the first reference voltage when a first signal at the first input exceeds the hysteresis offset or a second reference

voltage when the first signal at the first input does not exceed the hysteresis offset.

2. (Currently Amended) A comparator as in claim 1, wherein the ~~hystersis~~hysteresis offset is controllable.

3. (Currently Amended) A comparator as in claim 2, wherein the amount of current generated by the current source is controllable, thereby affecting the ~~hystersis~~hysteresis offset.

Please cancel Claim 4.

5. (Currently Amended) A comparator as in claim [4]1, wherein the first terminal of the third transistor is in communication with the first reference voltage via a third electrical path, the third electrical path including a current source.

6. (Original) A comparator as in claim 5, wherein the output of the comparator is located along the third electrical path between the first terminal of the third transistor and the current source.

Please cancel Claim 7.

8. (Currently Amended) A comparator as in claim 7~~1~~, wherein the hysteresis delay circuit ~~fourth electrical path~~ includes a switch.

Please cancel Claim 9.

10. (Currently Amended) ~~The device of claim 9 further comprising~~ A device comprising:

a first programmable circuit operable to selectively provide a hysteresis offset in response to a first programmable control signal;

a comparator circuit, responsive to the first programmable circuit, to receive a first and a second signals and compare the first signal and the second signal with applying the hysteresis offset to the second signal, wherein the comparator circuit provides a digital output signal in response to result of comparison; and

a second programmable circuit in communication with the comparator circuit and operable to selectively provide a hysteresis delay in response to a second programmable control signal, wherein the comparator circuit compares the first signal and the second signal with applying the hysteresis delay.

11. (Currently Amended) The device of claim 9~~10~~, wherein the device is programmable by a user for boundary-scan testing.

12. (Currently Amended) The device of claim 910, wherein the first and second input signals are mixed signals.

13. (Currently Amended) The device of claim 910, wherein the first programmable circuit includes a programmable impedance element for selectively setting the hysteresis offset in response to a first programmable circuit control signal.

14. (Currently Amended) The device of claim 910, wherein the first programmable circuit includes a programmable current source for selectively setting minimal voltage for input signals in response to a first programmable circuit control signal .

15. (Original) The device of claim 14, wherein the programmable current source includes a plurality of selectable current sources.

16. (Original) The device of claim 10, wherein the second programmable circuit includes programmable capacitance element, wherein the programmable capacitance element selectively sets hysteresis delay for input signals.

17. (Original) The device of claim 16, wherein the programmable capacitance element includes a plurality of selectable capacitors and switchers,

wherein the switchers is operable to receive second programmable control signals.

18. (Currently Amended) ~~The device of claim 9, further comprising A~~
device comprising:

a first programmable circuit operable to selectively provide a hysteresis offset in response to a first programmable control signal;

a comparator circuit, responsive to the first programmable circuit, to receive a first and a second signals and compare the first signal and the second signal with applying the hysteresis offset to the second signal, wherein the comparator circuit provides a digital output signal in response to result of comparison; and

a third programmable circuit in communication with the comparator circuit and operable to selectively provide control of magnitude of the digital output signal.

19. (Original) The device of claim 18, wherein the third programmable circuit further includes a plurality of selectable current sources.

20. (Currently Amended) ~~The device of claim 9, wherein further comprising A~~
device comprising:

a first programmable circuit operable to selectively provide a hysteresis offset in response to a first programmable control signal;

_____ a comparator circuit, responsive to the first programmable circuit, to receive a first and a second signals and compare the first signal and the second signal with applying the hysteresis offset to the second signal, wherein the comparator circuit provides a digital output signal in response to result of comparison; and

a third programmable circuit in communication with the first programmable circuit and operable to program an output current source for facilitating the digital output signal.

Please cancel Claim 21.

22. (Currently Amended) ~~The device of claim 21 further comprising A~~
device comprising:

_____ means for selectively providing a hysteresis offset in response to a first programmable control signal;

_____ means for receiving a first and a second signals;

_____ means for comparing the first signal and the second signal with applying the hysteresis offset to the second signal, wherein the means for comparing further includes means for providing a digital output signal in response to result of comparison; and

_____ means for selectively providing a hysteresis delay in response to a second programmable control signal, wherein the means for comparing further

includes means for comparing the first signal and the second signal with applying the hysteresis delay the second signal.

23. (Currently Amended) The device of claim ~~24~~22, wherein the device includes means for receiving programmable information from a user for boundary-scan testing.

24. (Currently Amended) The device of claim ~~24~~22, wherein the means for receiving a first and a second signals further includes means for receiving mixed signals.

25. (Currently Amended) The device of claim ~~24~~22, wherein the means for selectively providing a hysteresis offset further includes means for selecting an impedance in response to the first programmable circuit control signal.

26. (Currently Amended) The device of claim ~~24~~22, wherein the means for selectively providing a hysteresis offset further includes means for selectively providing a programmable current source for setting minimal voltage for input signals in response to the first programmable circuit control signal.

27. (Original) The device of claim 26, wherein the means for providing a programmable current source includes means for providing a plurality of selectable current sources.

28. (Original) The device of claim 22, wherein the means for selectively providing a hysteresis delay further includes means for selectively setting capacitance in response to the second programmable control signal.

29. (Original) The device of claim 28, wherein the means for selectively setting capacitance further includes means for activating one capacitor or a combination of a plurality of selectable capacitors.

30. (Currently Amended) ~~The device of claim 21 further comprising A~~
device comprising:

_____ means for selectively providing a hysteresis offset in response to a first programmable control signal;

_____ means for receiving a first and a second signals;

_____ means for comparing the first signal and the second signal with applying the hysteresis offset to the second signal, wherein the means for comparing further includes means for providing a digital output signal in response to result of comparison; and

_____ means for selectively providing control to magnitude of the digital output signal.

31. (Original) The device of claim 30, wherein the means for selectively providing control to magnitude of the digital output signal includes means for selecting one current source or a combination of a plurality of selectable current sources.

32. (Currently Amended) ~~The device of claim 21 further comprising A~~
device comprising:

_____ means for selectively providing a hysteresis offset in response to a first programmable control signal;

_____ means for receiving a first and a second signals;

_____ means for comparing the first signal and the second signal with applying the hysteresis offset to the second signal, wherein the means for comparing further includes means for providing a digital output signal in response to result of comparison; and

_____ means for programming an output current source for facilitating the digital output signal.

Please cancel Claim 33.

34. (Currently Amended) ~~The method for claim 33 further comprising:~~
A method for operating a comparator comprising:

_____ a) receiving first programmable control information;

_____ b) setting a hysteresis offset in response to the first programmable control information;

_____ c) receiving a first and a second input signals;

_____ d) offsetting the second input signal with the hysteresis offset;

_____ e) comparing the first input signal with the signal in step (d);

_____ f) receiving second programmable control information;

_____ g) setting a hysteresis delay in response to the second programmable control information;

_____ h) adjusting the second input signal in response to the hysteresis delay; and

_____ i) comparing the first input signal with the adjusted second input signal.

35. (Currently Amended) The method of claim ~~33~~34, wherein the method includes receiving first programmable control information from a user.

36. (Currently Amended) The method of claim ~~33~~34, wherein receiving a first and a second input signals further includes receiving mixed signals.

37. (Currently Amended) The method of claim ~~33~~34, wherein setting a hysteresis offset further includes selecting an impedance in response to the first programmable circuit control signal.

38. (Currently Amended) The method of claim ~~33~~34, wherein setting a hysteresis offset further includes providing a programmable current source for selectively setting minimal voltage for input signals in response to the first programmable circuit control signal .

39. (Original) The method of claim 38, wherein the a programmable current source includes providing a plurality of selectable current sources.

40. (Original) The method of claim 34, wherein setting a hysteresis delay further includes selectively setting capacitance in response to the second programmable control signal.

41. (Original) The method of claim 40, wherein the selectively setting capacitance further includes activating one capacitor or a combination of a plurality of selectable capacitors.

42. (Currently Amended) ~~The method of claim 33 further comprising~~ A method for operating a comparator comprising:

- a) receiving first programmable control information;
- b) setting a hysteresis offset in response to the first programmable control information;
- c) receiving a first and a second input signals;
- d) offsetting the second input signal with the hysteresis offset;

_____ e) comparing the first input signal with the signal in step (d);
and
_____ f) selectively providing control to magnitude of the digital
output signal.

43. (Original) The method of claim 42, wherein the selectively providing control to magnitude of the digital output signal includes selecting one current source or a combination of a plurality of selectable current sources.

44. (Currently Amended) ~~The method of claim 33 further comprising A~~
method for a comparator comprising:

_____ a) receiving first programmable control information;
_____ b) setting a hysteresis offset in response to the first
programmable control information;
_____ c) receiving a first and a second input signals;
_____ d) offsetting the second input signal with the hysteresis offset;
_____ e) comparing the first input signal with the signal in step (d);
and
_____ f) programming an output current source for facilitating the
digital output signal.

Please cancel Claim 45.

46. (Currently Amended) ~~The programmable comparator of claim 45~~
~~further comprising~~ A programmable comparator comprising:

_____ a first programmable circuit operable to selectively provide a
hysteresis delay in response to a first programmable control signal;

_____ a comparator circuit, responsive to the first programmable circuit, to
receive a first and a second input signals in response to the hysteresis delay and
provide a digital output signal in response to result of comparison between the
first and second input signals; and

_____ a second programmable circuit in communication with the
comparator circuit and operable to selectively provide a hysteresis offset in
response to a second programmable control signal, wherein the comparator
circuit receives the first input signal and the second input signal in response to
the hysteresis offset.

47. (Currently Amended) The programmable comparator of claim 46~~460~~,
wherein the programmable comparator is programmable by a user.

48. (Currently Amended) The programmable comparator of claim 45~~46~~,
wherein the first and second input signals are mixed signals.

49. (Original) The programmable comparator of claim 46, wherein the second programmable circuit includes a programmable impedance element for selectively setting the hysteresis offset in response to a second programmable circuit control signal.

50. (Original) The programmable comparator of claim 46, wherein the second programmable circuit includes a programmable current source for selectively setting minimal voltage for input signals in response to a first programmable circuit control signal .

51. (Original) The programmable of claim 50, wherein the programmable current source includes a plurality of selectable current sources.

52. (Currently Amended) The programmable comparator of claim ~~45~~46, wherein the first programmable circuit includes programmable capacitance element, wherein the programmable capacitance element selectively sets the hysteresis delay for input signals based on said first programmable control signals.

53. (Currently Amended) The programmable comparator of claim 52, wherein the programmable capacitance element includes a plurality of selectable capacitors and switchers, wherein the switchers is operable to receive ~~second~~ said first programmable control signals.

54. (Original) The programmable comparator of claim 46 further comprising a third programmable circuit in communication with the comparator circuit and operable to selectively provide control to magnitude of the digital output signal.

55. (Original) The programmable comparator of claim 54, wherein the third programmable circuit further includes a plurality of selectable current sources.

56. (Original) The programmable comparator of claim 46 further comprising a third programmable circuit in communication with the comparator circuit and operable to programming an output transistor for facilitating the digital output signal.

Please cancel Claim 57.

58. (Currently Amended) ~~The programmable apparatus of claim 57 further comprising~~ A programmable apparatus comprising:

_____ means for selectively providing a hysteresis delay in response to a first programmable control signal;

_____ means for receiving a first and a second input signals in response to the hysteresis delay;

_____ means for comparing the first and second input signals and providing a digital output signal in response to result of comparison between the first and second input signals; and

_____ means for selectively providing a hysteresis offset in response to a second programmable control signal, wherein the means for receiving a first and a second input signals further includes means for receiving the first input signal and the second input signal in response to the hysteresis offset.

59. (Original) The programmable apparatus of claim 58 further includes means for receiving the first and second programmable control signals from a user.

60. (Currently Amended) The programmable apparatus of claim ~~57~~58, wherein the means for receiving a first and a second input signals further includes means for receiving mixed signals.

61. (Original) The programmable apparatus of claim 58, wherein means for selectively providing a hysteresis offset includes means for selectively setting the hysteresis offset in response to a second programmable circuit control signal.

62. (Original) The programmable apparatus of claim 58, wherein means for selectively providing a hysteresis offset further includes means for selectively setting minimal voltage for input signals in response to a first programmable circuit control signal .

63. (Original) The programmable apparatus of claim 62, wherein means for selectively setting minimal voltage for input signals further includes means for providing a plurality of selectable current sources.

64. (Currently Amended) The programmable apparatus of claim ~~57~~58, wherein means for selectively providing a hysteresis delay includes means for selectively setting capacitance in response to the first programmable control signal.

65. (Original) The programmable apparatus of claim 64, wherein means for selectively setting capacitance includes means for selecting one capacitor or a combination of a plurality of selectable capacitors.

66. (Original) The programmable apparatus of claim 58 further comprising means for selectively providing control to magnitude of the digital output signal.

67. (Original) The programmable apparatus of claim 66, wherein means for selectively providing control to magnitude of the digital output signal further includes means for selecting one current source or a combination of a plurality of selectable current sources.

68. (Original) The programmable apparatus of claim 58 further comprising means for programming an output current source for facilitating the digital output signal.

Please cancel Claim 69.

70. (Currently Amended) ~~The method of claim 69 further comprising A~~
method for comparing input signals comprising:

a) providing a hysteresis delay in response to a first programmable control signal;

b) receiving a first and a second input signals in response to the hysteresis delay;

c) comparing the first and second input signals;

d) providing a digital output signal in response to result of comparison between the first and second input signals; and

e) providing a hysteresis offset in response to a second programmable control signal, wherein the receiving a first and a second input

signals further includes receiving the first input signal and the second input signal in response to the hysteresis offset.

71. (Original) The method of claim 70 further includes receiving the first and second programmable control signals from a user.

72. (Currently Amended) ~~The method of claim 69,~~ A method for comparing input signals comprising:

a) providing a hysteresis delay in response to a first programmable control signal;

b) receiving a first and a second input signals in response to the hysteresis delay;

c) comparing the first and second input signals; and

d) providing a digital output signal in response to result of comparison between the first and second input signals,

wherein the receiving a first and a second input signals further includes receiving mixed signals.

73. (Original) The method of claim 70, wherein the selectively providing a hysteresis offset includes selectively setting the hysteresis offset in response to a second programmable circuit control signal.

74. (Original) The method of claim 70, wherein the selectively providing a hysteresis offset further includes selectively setting minimal voltage for input signals in response to a first programmable circuit control signal .

75. (Original) The method of claim 74, wherein the selectively setting minimal voltage for input signals further includes providing a plurality of selectable current sources.

76. (Currently Amended) The method of claim ~~69~~70, wherein the selectively providing a hysteresis delay includes selectively setting capacitance in response to the first programmable control signal.

77. (Original) The method of claim 76, wherein the selectively setting capacitance includes selecting one capacitor or a combination of a plurality of selectable capacitors.

78. (Original) The method of claim 70 further comprising the selectively providing control of magnitude of the digital output signal.

79. (Original) The method of claim 78, wherein the selectively providing control of magnitude of the digital output signal further includes selecting one current source or a combination of a plurality of selectable current sources.

80. (Original) The method of claim 70 further comprising programming an output current source for facilitating the digital output signal.

Please cancel Claim 81.

82. (Currently Amended) ~~The device of claim 81 further comprising A~~
device comprising:

_____ a first programmable circuit operable to selectively providing an
output loading on an output circuit in response to a first programmable control
signal;

_____ a comparator circuit in communication with the first programmable
circuit to compare a first input signal and a second input signal and provide a
digital output signal in response to result of comparison and the output loading on
the output circuit: and

_____ a second programmable circuit operable to selectively provide a
hysteresis offset in response to a second programmable control signal, wherein
the comparator circuit receives the first and the second input signals with
applying the hysteresis offset.

83. (Currently Amended) ~~The device of claim 81 further comprising A~~
device comprising:

_____ a first programmable circuit operable to selectively providing an output loading on an output circuit in response to a first programmable control signal;

_____ a comparator circuit in communication with the first programmable circuit to compare a first input signal and a second input signal and provide a digital output signal in response to result of comparison and the output loading on the output circuit: and

_____ a third programmable circuit in communication with the comparator circuit and operable to selectively provide a hysteresis delay in response to a third programmable control signal, wherein the comparator circuit receives the first signal and the second signal with applying the hysteresis delay.

84. (Currently Amended) The device of claim ~~84~~82, wherein the device is programmable by a user.

85. (Currently Amended) The device of claim ~~84~~82, wherein the first and second input signals are mixed signals.

86. (Original) The device of claim 82, wherein the second programmable circuit includes a programmable impedance element for selectively setting the hysteresis offset in response to a first programmable circuit control signal.

87. (Original) The device of claim 82, wherein the second programmable circuit includes a programmable current source for selectively setting minimal voltage for input signals in response to a first programmable circuit control signal.

88. (Original) The device of claim 87, wherein the programmable current source includes a plurality of selectable current sources.

89. (Original) The device of claim 83, wherein the third programmable circuit includes programmable capacitance element, wherein the programmable capacitance element selectively sets hysteresis delay for input signals.

90. (Original) The device of claim 89, wherein the programmable capacitance element includes a plurality of selectable capacitors and switchers, wherein the switchers is operable to receive second programmable control signals.

91. (Currently Amended) The device of claim ~~84~~82, wherein the first programmable circuit selectively controls magnitude of the digital output signal.

92. (Original) The device of claim 91, wherein the first programmable circuit further includes a plurality of selectable current sources.

Please cancel Claim 93.

94. (Currently Amended) ~~The device of claim 93 further comprising A~~
device comprising:

_____ means for selectively providing an output loading on an output
circuit in response to a first programmable control signal;

_____ means for comparing a first input signal and a second input signal
and providing a digital output signal in response to result of comparison and the
output loading on the output circuit; and

_____ means for selectively providing a hysteresis offset in response to a
second programmable control signal, wherein means for comparing further
includes means for receiving the first and the second input signals with applying
the hysteresis offset.

95. (Currently Amended) ~~The device of claim 93 further comprising A~~
device comprising:

_____ means for selectively providing an output loading on an output
circuit in response to a first programmable control signal;

_____ means for comparing a first input signal and a second input signal
and providing a digital output signal in response to result of comparison and the
output loading on the output circuit; and

_____ means for selectively providing a hysteresis delay in response to a
third programmable control signal, wherein means for comparing further includes

means for receiving the first signal and the second signal with applying the hysteresis delay.

96. (Currently Amended) The device of claim ~~93~~94 further includes means for receiving the first, second and third programmable control signals from a user.

97. (Currently Amended) The device of claim ~~93~~94, wherein means for receiving the first and second input signals further includes means for receiving mixed signals.

98. (Original) The device of claim 94, wherein means for selectively providing a hysteresis offset further includes means for selectively providing an impedance for setting the hysteresis offset in response to a first programmable circuit control signal.

99. (Original) The device of claim 94, wherein means for selectively providing a hysteresis offset includes means for providing a programmable current source for selectively setting minimal voltage for input signals.

100. (Original) The device of claim 99, wherein means for providing a programmable current source includes means for providing a plurality of selectable current sources.

101. (Original) The device of claim 95, wherein means for selectively providing a hysteresis delay further includes means for selectively setting capacitance in response to the third programmable control signal.

102. (Original) The device of claim 101, wherein means for selectively setting capacitance further includes means for activating one capacitor or a combination of a plurality of selectable capacitors.

103. (Currently Amended) The device of claim ~~93~~94, wherein means for selectively providing an output loading further includes means for selectively controlling magnitude of the digital output signal.

104. (Original) The device of claim 103, wherein means for selectively controlling magnitude of the digital output signal includes means for selecting one or a combination of a plurality of selectable current sources.

Please cancel Claim 105.

106. (Currently Amended) ~~The method of claim 105 further comprising A~~
method for performing a compare function comprising:
_____ selectively providing an output loading on an output circuit in
response to a first programmable control signal;

_____ comparing a first input signal and a second input signal and providing a digital output signal in response to result of comparison and the output loading on the output circuit; and

_____ selectively providing a hysteresis offset in response to a second programmable control signal, wherein the comparing further includes receiving the first and the second input signals with applying the hysteresis offset.

107. (Currently Amended) ~~The method of claim 105 further comprising A~~
method for performing a compare function comprising:

_____ selectively providing an output loading on an output circuit in response to a first programmable control signal;

_____ comparing a first input signal and a second input signal and providing a digital output signal in response to result of comparison and the output loading on the output circuit; and

_____ selectively providing a hysteresis delay in response to a third programmable control signal, wherein the comparing further includes receiving the first signal and the second signal with applying the hysteresis delay.

108. (Currently Amended) The method of claim ~~405-106~~ further includes receiving the first, second and third programmable control signals from a user.

109. (Currently Amended) The method of claim ~~405~~106, wherein the receiving the first and second input signals further includes receiving mixed signals.

110. (Original) The method of claim 106, wherein the selectively providing a hysteresis offset further includes selectively providing an impedance for setting the hysteresis offset in response to a first programmable circuit control signal.

111. (Original) The method of claim 106, wherein the selectively providing a hysteresis offset includes providing a programmable current source for selectively setting minimal voltage for input signals.

112. (Original) The method of claim 111, wherein the providing a programmable current source further includes providing a plurality of selectable current sources.

113. (Original) The method of claim 107, wherein the selectively providing a hysteresis delay further includes selectively setting capacitance in response to the third programmable control signal.

114. (Original) The method of claim 113, wherein the selectively setting capacitance further includes activating one capacitor or a combination of a plurality of selectable capacitors.

115. (Currently Amended) The method of claim ~~405~~106, wherein the selectively providing an output loading further includes selectively controlling magnitude of the digital output signal.

116. (Original) The method of claim 115, wherein the selectively controlling magnitude of the digital output signal includes selecting one or a combination of a plurality of selectable current sources.

117. (New) A device comprising:

- a hysteresis offset circuit that generates a hysteresis offset;
- a hysteresis delay circuit that generates a hysteresis delay; and
- a comparator circuit that receives first and second input signals and communicates with said hysteresis offset circuit and said hysteresis delay circuit, that generates a first output signal when said first input signal exceeds said second input signal plus said hysteresis offset for a period greater than said hysteresis delay, and that generates a second output signal when at least one of said first input signal does not exceed said second input signal plus said hysteresis offset and/or when said first input signal does not exceed said second input signal plus said hysteresis offset for said period.

118. (New) The device of Claim 117 wherein said comparator circuit includes an output circuit and further comprising an output loading circuit that communicates with said output circuit and that adjusts output loading of said output circuit.

119. (New) A device comprising:

- a hysteresis offset circuit that generates a hysteresis offset;
- an output loading circuit that generates an output loading adjustment; and
- a comparator circuit that receives first and second input signals, communicates with said hysteresis offset circuit and includes an output circuit that communicates with said output loading circuit, that generates one of a first output signal or a second output signal based on said first input signal, said second input signal, said hysteresis offset and said output loading adjustment.

120. (New) The device of Claim 119 further comprising a hysteresis delay circuit that generates a hysteresis delay, wherein said comparator circuit generates one of said first or second output signals based on said first input signal, said second input signal, said hysteresis offset, said output loading adjustment and said hysteresis delay.

121. (New) A device comprising:

- a hysteresis delay circuit that generates a hysteresis delay;
- an output loading circuit that generates an output loading adjustment; and
- a comparator circuit that receives first and second input signals, communicates with said hysteresis delay circuit and includes an output circuit that

communicates with said output loading circuit, that generates one of a first output signal or a second output signal based on said first input signal, said second input signal, said hysteresis delay and said output loading adjustment.

122. (New) The device of Claim 121 further comprising a hysteresis offset circuit that generates a hysteresis offset, wherein said comparator circuit generates one of said first or second output signals based on said first input signal, said second input signal, said hysteresis delay, said output loading adjustment and said hysteresis offset.

123. (New) A device comprising:

- a hysteresis offset circuit that generates a hysteresis offset;
- a hysteresis delay circuit that generates a hysteresis delay; and
- a comparator circuit that receives first and second input signals and communicates with said hysteresis offset circuit and said hysteresis delay circuit, that generates one of a first output signal or a second output signal based on said first input signal, said second input signal, said hysteresis offset and said hysteresis delay.

124. (New) The device of Claim 123 wherein said comparator circuit includes an output circuit and further comprising an output loading circuit that generates an output loading adjustment, wherein said comparator circuit generates one of said first or second output signals based on said first input signal, said second input signal, said hysteresis offset, said hysteresis delay and said output loading adjustment.

125. (New) A device comprising:

hysteresis offset means for generating a hysteresis offset;

hysteresis delay means, for generating a hysteresis delay; and

comparator means that receives first and second input signals and communicates with said hysteresis offset means and said hysteresis delay means, for generating a first output signal when said first input signal exceeds said second input signal plus said hysteresis offset for a period greater than said hysteresis delay, and for generating a second output signal when at least one of said first input signal does not exceed said second input signal plus said hysteresis offset and/or when said first input signal does not exceed said second input signal plus said hysteresis offset for said period.

126. (New) The device of Claim 125 wherein said comparator means includes output means for outputting one of said first or second output signals based on an output loading adjustment and further comprising output loading means that generates said output loading adjustment.

127. (New) A device comprising:

hysteresis offset means for generating a hysteresis offset;

output loading means for generating an output loading adjustment; and

comparator means, that receives first and second input signals, communicates with said hysteresis offset means and includes output means that communicates with said output loading means, for generating one of a first output signal

or a second output signal based on said first input signal, said second input signal, said hysteresis offset and said output loading adjustment.

128. (New) The device of Claim 127 further comprising hysteresis delay means for generating a hysteresis delay, wherein said comparator means generates one of said first or second output signals based on said first input signal, said second input signal, said hysteresis offset, said output loading adjustment and said hysteresis delay.

129. (New) A device comprising:
hysteresis delay means for generating a hysteresis delay;
output loading means for generating an output loading adjustment; and
comparator means, that receives first and second input signals, communicates with said hysteresis delay means and includes output means that communicates with said output loading means, for generating one of a first output signal or a second output signal based on said first input signal, said second input signal, said hysteresis delay and said output loading adjustment.

130. (New) The device of Claim 129 further comprising hysteresis offset means for generating a hysteresis offset, wherein said comparator means generates one of said first or second output signals based on said first input signal, said second input signal, said hysteresis delay, said output loading adjustment and said hysteresis offset.

131. (New) A device comprising:

- hysteresis offset means for generating a hysteresis offset;
- hysteresis delay means for generating a hysteresis delay; and
- comparator means, that receives first and second input signals and communicates with said hysteresis offset means and said hysteresis delay means, for generating one of a first output signal or a second output signal based on said first input signal, said second input signal, said hysteresis offset and said hysteresis delay.

132. (New) The device of Claim 131 wherein said comparator means includes output means for outputting said first output signal or said second output signal based on an output loading adjustment and further comprising output loading means for generating said output loading adjustment, wherein said comparator means generates one of said first or second output signals based on said first input signal, said second input signal, said hysteresis offset, said hysteresis delay and said output loading adjustment.

133. (New) A method comprising:

- generating a hysteresis offset;
- generating a hysteresis delay;
- generating a first output signal when said first input signal exceeds said second input signal plus said hysteresis offset for a period greater than or equal to said hysteresis delay; and

generating a second output signal when at least one of said first input signal does not exceed said second input signal plus said hysteresis offset and/or when said first input signal does not exceed said second input signal plus said hysteresis offset for said period.

134. (New) The method of Claim 133 further comprising adjusting output loading.

135. (New) A method comprising:
 setting a hysteresis offset;
 setting an output loading adjustment; and
 generating one of a first output signal or a second output signal based on said first input signal, said second input signal, said hysteresis offset and said output loading adjustment.

136. (New) The method of Claim 135 further comprising:
 setting a hysteresis delay; and
 generating one of said first or second output signals based on said first input signal, said second input signal, said hysteresis offset, said output loading adjustment and said hysteresis delay.

137. (New) A method comprising:
 setting a hysteresis delay;

setting an output loading adjustment; and
generating one of a first output signal or a second output signal based on said first input signal, said second input signal, said hysteresis delay and said output loading adjustment.

138. (New) The method of Claim 137 further comprising:
setting a hysteresis offset; and
generating one of said first or second output signals based on said first input signal, said second input signal, said hysteresis delay, said output loading adjustment and said hysteresis offset.

139. (New) A method comprising:
setting a hysteresis offset;
setting a hysteresis delay; and
generating one of a first output signal or a second output signal based on said first input signal, said second input signal, said hysteresis offset and said hysteresis delay.

140. (New) The method of Claim 139 further comprising:
setting an output loading adjustment; and
generating one of said first or second output signals based on said first input signal, said second input signal, said hysteresis offset, said hysteresis delay and said output loading adjustment.